State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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January 30, 1996

Douglas Nielsen
Duchesne County Roads
P.O. Box 356
East Old Highway 40
Duchesne, Utah 84021-0356

Re: Review of Notice of Intention to Commence Large Mining Operations, Duchesne County, Duchesne County Asphalt Mine, M/047/028, Uintah County, Utah

Dear Mr. Nielsen:

The Division has completed a review of your initial submission of a Large Mining Operations Notice of Intention (LMO-NOI) for the Duchesne County Asphalt mine, located in the NW/4 of the NW/4 of Section 19, T2N, R1E, Uintah County, Utah. Your submission was received by the Division on May 5, 1995. Due to a backlog of other permitting reviews we were not able to review your submission any sooner. We apologize for the delay and hope this has not caused your operations any hardship.

After reviewing your submission, the Division has the following comments which will need to be addressed before tentative approval may be granted. We have provided a long version of review comments to assist you in your "first-time" application for a LMO-NOI. The comments are listed below under the applicable Minerals Rule heading. Please format your response in a similar fashion. Items prefaced by the word "COMMENT" are the Division's understanding from the information submitted. If the information contained under these "COMMENT" headings is incorrect, please provide us with the correct information.

R647-4-104 - Filing Requirements and Review Procedures

- COMMENT: This large mine notice was submitted due to the existing small mine operation exceeding five acres of surface disturbance.

R647-4-104 - Operator's, Surface and Mineral Ownership

- COMMENT: The surface is owned by Duchesne County and Ester Fausett. The minerals are owned by Duchesne County.

R647-4-105 - Maps, Drawings & Photographs

105.1 Topographic base map, boundaries, pre-act disturbance

- Two base maps were submitted. One shows the access route to the mine site from the main highway system at an approximate scale of 1:100,000. This map is not labeled, but we believe it was intended to be Exhibit A. This map satisfies the requirement for showing general access to the site, but it will need to be clearly labeled. The map labeled "Exhibit C" is acceptable as a topographic base map; however, some features are not clear on this copy and other features are blanked out by label borders. Please provide a clearer version of Exhibit "C" with emphasis on an area which includes the mine site and a 500 foot area outside the perimeter of the mine site. Please make sure the exhibit clearly shows: the property ownership boundary, any drainages, all roads, buildings, transmission lines, wells, pipelines, and any other surface facilities within 500 feet of the mining operations. If you choose to make an enlarged photocopy of a topographic map, please include the graphic scale in the original version, so this scale can be used in the enlargement to measure areas.

105.2 Surface facilities map

- Exhibit "B" is a Surface facilities map; however, it does not show buildings, stationary mining/processing equipment, roads within the mine site, utilities, power lines, proposed drainage control structures, topsoil storage areas, and disposal areas for overburden. These features need to be clearly identified on the surface facilities map. We understand that all onsite equipment or buildings are mobile, but please include their current location on the surface facilities map. You may increase the scale of the drawing if this is necessary to allow sufficient detail for these items. Please label all features, or provide a legend describing the various features. Although it is not required, it is helpful if the surface facilities map and reclamation treatments map (see below) are of the same scale.

105.3 Drawings or Cross Sections (slopes, roads, pads, etc.)

- Please provide cross sectional drawings of pit highwalls or slopes which are proposed to be left at angles greater than 2-horizontal:1-vertical. Please identify the location of these cross sections on the surface facilities map.

- Please provide a reclamation activities and treatment map of the mine site at a scale comparable to the surface facilities map. This map should identify the location and type of reclamation work to be performed at the time of final reclamation. This map should also include those areas disturbed by mining operations which are proposed to remain unreclaimed. The areas and treatments shown on this map should match the areas and tasks described in the text of the reclamation section of the notice of intent.

105.4 Photographs

- Aerial photographs can be used for mapping or to show the extent of the site disturbance. Other photographs can be provided to show typical vegetation adjacent to the site.

R647-4-106 - Operation Plan

106.2 Type of operations conducted, mining method, processing etc.

- Is the waste rock/overburden material considered deleterious or acid forming? See comment under section 106.4 below.

106.3 Estimated acreages disturbed, reclaimed, annually.

- Please provide an estimate of the acreages proposed to be disturbed and/or reclaimed annually or sequentially.

106.4 Nature of materials mined, waste and estimated tonnages

- Please provide a description of the nature of the materials to be mined or processed including waste/overburden material. Please describe the physical characteristics of the waste material (particle sizes and estimated size percentages, pH, mineral composition, etc.). Please provide an estimate of the annual tonnages of both ore and waste materials to be mined. Please describe how the waste rock/overburden will be handled. Where will it be placed?

106.5 Existing soil types, location, amount

- Page 8 of form MR-LMO indicates some topsoil has been stockpiled. Please identify topsoil stockpile locations on the surface facilities map. Please provide an estimate of the amount of soil in each stockpile, and a description of the basic physical and chemical properties of the soil such as: Texture, % organic matter, pH, Conductivity, Calcium Carbonate Equivalent, Sodium Absorption Ratio, Cation exchange capacity, and N-P-K analysis. The soil mapping information contained in the submission (completed by the Natural Resources Conservation Service) did not contain information describing these soil characteristics. If no topsoil has been salvaged at the site, this needs to be stated, along with an explanation why.

106.6 Plan for protecting & redepositing soils

- A recommendation was made by the Natural Resource Conservation Service to use the soil material from mapping unit B to cover the site with a minimum 1-foot depth. A conflict between the recommended cover rate (1-foot) and the amount shown on page 8 of form MR-LMO (4-inches) needs to be corrected. The Division recommends a 1-foot soil depth replacement if the operator plans on replacing soils and if permission can be obtained to borrow soils from this area. The operator would need to commit to using this borrow material and also salvage and stockpile the available topsoil materials for use in reclamation of the borrow site. At that

time, a map showing stockpile locations and plans for protecting the stockpiled materials would be required.

106.7 Existing vegetation - species and amount

- The predominant species in the transect area are Wyoming Big Sage, Bitterbrush, Smooth Brome, and Crested Wheatgrass. Vegetation cover was determined using 4 transects and is reported as 21% cover. Applying the 70% of premining cover criteria will result in a 15% cover revegetation success standard.

106.8 Depth to groundwater, extent of overburden, geology

- Please describe the depth to groundwater at the mine site, the thickness of overburden material at the mine, and the general geological setting of the ore body.

106.9 Location & size of ore, waste, tailings, ponds

- Please describe the proposed location and size of ore and waste stockpiles, tailings facilities and water storage/treatment ponds, if any. Please show their locations on Exhibit B (Surface Facilities Map).

R647-4-107 - Operation Practices

107.1 Public safety & welfare
107.1.12 Disposal of trash, scrap, debris

- COMMENT: The mining related trash, scrap and debris is trucked to a landfill that belongs to Duchesne County.

107.1.13 Plugging or capping drill holes

- Drill holes used for sampling or blasting within the pit area which will be mined through in the immediate future will not need to be plugged or capped. Please inform us of any other types of drill holes or borings which are within the project area which will need to be plugged or capped.

107.1.14 Posting warning signs

- Please describe the possible routes of public access to the mine site. Describe the location of any warning signs which have been posted, and the location of any locked gates preventing access.

107.1.15 Constructing berms, fences, etc. above highwalls.

- It is most likely that berms or fences above the highwalls are not needed due to the lack of public access. Please provide information to verify that public access immediately above or below the pit highwalls is restricted. Please describe the vertical height and length of any highwalls or slopes. Please describe the typical pit bench configuration (bench width, vertical distance between benches, and interslope angle between benches).

107.2 Drainages to minimize damage

- Please provide a map which shows the location of any surface water drainages in the immediate vicinity of the mining operation in greater detail. The current version of Exhibit "C" is unclear in this regard and not of sufficient scale. Please describe the measures to be taken to minimize adverse impacts to natural drainages affected by the mining operation. Please describe how impacted drainages will be restored upon final reclamation.

107.3 Erosion control & sediment control

- Please describe the measures that will be used during operations to control storm water runoff and prevent untreated waters from leaving the disturbed mine site area.

107.4 Deleterious material safety stored or removed

- Please describe the location of the fuel tanks located on site. Are these tanks protected by barriers or located within a bermed or lined area? How are fuel spills treated or handled? Does this operation have a Fuel Spill Prevention and Containment Plan?

107.5 Suitable soils removed & stored

- See comments under 106.6.

107.6 Concurrent reclamation

- "Exhibit "B" shows areas being reclaimed or to be reclaimed by Duchesne County. Please describe the reclamation treatments which have taken place in this area or those treatments proposed for this area. This description should include the date(s) work was performed and the amount of acreage involved Cross sections of the final reclaimed topography are also requested here and under rule R647-4-105-3.12.

R647-4-108 - Hole Plugging Requirements

- See comment under 107.1.13.

R647-4-109 - Impact Assessment

109.1 Impacts to surface & groundwater systems

- Please provide a description of the possible impacts to ground and surface water in the project area due to this mining activity. How close to the pit is the nearest stream or river? Does stormwater from the mine site flow into any streams or rivers? Will the pit intercept any ground water aquifers?

109.2 Impacts to threatened & endangered wildlife/habitat

- COMMENT: No impacts to any known threatened or endangered species are expected.

109.3 Impacts on existing soils resources

- See comments under 106.5

109.4 Slope stability, erosion control, air quality, safety

- Please describe the possible impacts of the mine operation on the existing pit highwall and/or waste dump slopes. Will the operation have any impacts on erosion? Will the operation have any impacts on air quality? Will the operation present any hazards to public health and safety?

109.5 Actions to mitigate any impacts

- Please describe any actions which are proposed to mitigate any of the above mentioned impacts. If no mitigation is proposed, please justify why mitigation is inappropriate.

- COMMENT: A proposed topsoil borrow area adjacent to the site may be used to provide adequate soil material for reclamation. No other unique mitigation measures have been proposed.

R647-4-110 - Reclamation Plan

110.1 Concurrent & post mining land use

- A postmining land use of grazing has been proposed. Please clarify whether this will be wildlife or livestock grazing, or both.

110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed

- The notice of intention contained no variance requests. This implies that all disturbance will be fully reclaimed according to the reclamation performance standards of the Minerals Rules. Since portions of this site were actively mined prior to the Utah Mined Land Reclamation Act, there may be some areas where it is not reasonable or possible to meet the reclamation performance standards. Variances from the highwall, topsoil replacement, and revegetation performance standards may be appropriate for those areas which were initially mined prior to the Act. Please refer to the variance section of this letter for further explanation.

110.3 Description of facilities to be left (post mining use)

- The information in the notice of intention implies that no facilities or structures will remain after final reclamation. Please provide a statement verifying this.

110.5 Revegetation planting program

- The planting recommendations made by the Natural Resources Conservation Service are not expected to provide a permanent and diverse vegetative cover, and therefore should not be used. Attached is a seed mix recommended by the Division to achieve the post mine land use of wildlife grazing. Please commit to using this mix

or propose an alternative mix which will provide for a permanent, diverse vegetation community.

R647-4-111 - Reclamation Practices

111.1 Public safety & welfare

1.12 Disposal of trash & debris

- COMMENT: All trash and debris will be appropriately disposed of at an approved landfill.

1.13 Plugging drill holes

- See comment under 107.1.13.

1.14 Posting warning signs

- See comment under 107.1.14.

1.15 Constructing berms/fences above highwalls

- See comment under 107.1.15.

111.2 Reclamation of natural channels

- Please provide the information requested under section 107.2 which addresses projected impacts to natural drainages. Channels which have been affected by mining operations will need to be reclaimed to a stable configuration.

111.3 Erosion & sediment control

- Please describe the final reclamation measures to be taken to control sediment and minimize erosion. These measures would include plans to provide surface roughness, land shaping practices, and other soil stabilization techniques to prevent or minimize the loss of topsoil and sediment from the reclaimed mine site.

111.6 All slopes regraded to stable configuration

- Please describe how slopes on waste piles, spoil piles and fills will be regraded to a stable configuration at final reclamation. The final slope configurations will need to minimize both safety hazards and erosion, while providing for successful revegetation.

111.7 Highwalls stabilized at 45 degrees or less

- Please describe how pit highwalls and open cuts for roadways or pads will be reclaimed or stabilized at final reclamation. Division rules require all highwalls to be stabilized by backfilling against them or cutting the highwall back to an angle of 45° or less, unless a variance has been granted by the Division.

111.8 All roads & pads reclaimed

- Please describe how on-site roads and pads will be reclaimed at the time of final reclamation. Reclamation of these compacted surfaces usually includes regrading and/or ripping followed by topsoil replacement and seeding. All on-site roads and pads must be reclaimed unless a variance has been granted by the Division.

111.9 Dams & impoundments left self draining & stable

- Any structures which impound water will need to be reclaimed to be self draining and mechanically stable unless the Division has granted a variance.

111.12 Topsoil redistribution

- Please refer to comments under 106.6

R647-4-112 - Variance

No variances were requested in this submission. An operator may request a variance from the rules listed under Operation Practices (R647-4-107), Hole Plugging Requirements (R647-4-108), and/or Reclamation Practices (R647-4-111). A variance request must include: (1) the rule to which a variance is requested, (2) a description of the variance requested and the area of the mine site which would be affected by the variance, (3) justification for the variance, and (4) alternate methods or measures to be utilized that will be as effective as the performance standard.

A variance request is not required for areas which were disturbed prior to the Utah Mined Land Reclamation Act which have not been reimpacted by this mining operation. These areas are not subject to the reclamation requirements of the Act. These areas should be identified on drawings and in the text of the proposal.

Areas which were disturbed prior to the Act which have been reimpacted by this mining operation are subject to the reclamation requirements. It may be appropriate to request a variance from one or more of the rules for these types of areas. For example, a pre-Act area which had no topsoil salvaged has been reimpacted by mining. This area should be included in a request for a variance from the rule dealing with topsoil replacement. Justification for this request would be that no topsoil existed in this area prior to the current operations; therefore, no topsoil is available for replacement. The Division considers the pre-existing condition of these pre-Act areas when applying the reclamation performance standards.

R647-4-113 - Surety

- No reclamation surety calculations were included in this submission. This submission did not contain sufficient detail for the Division to prepare a draft reclamation cost estimate. In your response to this review letter, please include an estimate of the costs required to implement the reclamation treatments described in the reclamation section of the text. The areas and reclamation treatments used in the cost estimate should agree with those areas and treatments shown on the reclamation treatments map.

R647-4-115 - Confidential Information

- COMMENT: No information in this submission was identified as confidential.

The Division will suspend further review of the Duchesne County Asphalt Mine LMO-NOI until your response to this letter is received. If you have any questions regarding this letter please contact me, Tony Gallegos, Lynn Kunzler, or Tom Munson of the Minerals Staff. If you wish to arrange a meeting to sit down and discuss this review, please contact us at your earliest convenience. Thank you for your cooperation in completing this permitting action.

Sincerely,

D. Wayne Hedberg
Permit Supervisor
Minerals Reclamation Program

jb
Attachment: Division recommended seedmix
M047028.REW

Recommended Revegetation Species List
for

Duchesne County
Duchesne County Tar Sands
M/047/028

Prepared by DOGM November 29, 1995

Common Name	Species Name	*Rate lbs/ac (PLS)
'Hycrest' crested wheatgrass	*Agropyron cristatum 'Hycrest'*	0.5
Intermediate wheatgrass	*Agropyron intermedium*	1.0
Orchard Grass	*Dactylis glomerata*	0.5
Basin Wildrye	*Elymus cinereus*	1.5
Indian ricegrass	*Oryzopsis hymenoides*	1.5
Ladac Alfalfa	*Medicago sativa*	1.0
Yellow sweetclover	*Melilotus officinalis*	0.5
Palmer penstemon	*Penstemon palmeri*	0.5
Small burnet	*Sanguisorba minor*	1.5
Wyoming big sagebrush	*Artemisia tridentata wyomingensis*	0.1
4-Wing Saltbush	*Atriplex canescens*	1.0
Rubber rabbitbrush	*Chrysothamnus nauseosus*	0.25
Forage kochia	*Kochia prostrata*	0.5
Bitterbrush	*Purshia tridentata*	1.0
	Total	11.35 lbs/ac

***This is the recommended drill seeding rate.**
If the species are to be broadcast seeded, increase the rate by 50%.